

Coverage Spotlight

## PHILIPPINES GROWTH CREATING OPPORTUNITIES FOR GIS

The Philippines is comprised of 7,100 tropical islands approximately 450 miles off the coast of mainland China. Last week, the country announced its economy grew 4.5% during 2002's second quarter, its fastest pace in five years. Over the past year, the country has sustained robust growth, despite a stalled economy in the United States, its largest trading partner. The economic growth has accompanied a rapid population increase, particularly around its capital city, Manila. Philippines' growth is creating a bigger need, and opportunity, for GIS technologies to make a difference in Asia.



The Philippines landscape includes lush rain forests, scenic wetland

Client Solutions

## SEARCH AND RESCUE IN DISTANT LANDS

Each year, thousands of hikers, boaters, and other outdoor enthusiasts become lost in dangerous wildland areas. Thousands more disappear during natural disasters. In the United States and several other countries, families and friends can turn to well equipped and trained local authorities for search and rescue aid. However, in many countries, sophisticated search and rescue is not available. Three years ago, [1st Special Response Group](#) (1SRG) set out to bridge this gap. This all-volunteer, non-profit group has successfully responded to aid missions on four continents. The group is utilizing GPS and geospatial technologies to support its global humanitarian activities.

1SRG is a rapid response team able to conduct wilderness, mountain, & sea searches virtually anywhere in the world. Most surprising, it performs these emergency missions on a purely volunteer, non-profit basis. The group's participants usually perform missions on personal time and vacation days. Most of the volunteers must balance their rescue work with full-time careers. Additionally, the group is dependent on contributed equipment, supplies, and cash donations.

The 1SRG group is currently made up of 65 highly-trained volunteers located around the United States and Canada. These volunteers have varying specialties, including technical climbing, medical response, sea diving, and backcountry expertise.



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*LAND INFO Supports Internati  
 Emergency Response Team*

a mission team to help support search efforts. It also contacted LAND INFO International for help with geospatial data for the search area.

LAND INFO worked with 1SRG produce a base map for the search area. LAND INFO provided 1:100,000 scale, geo-referenced topographic maps. The base data was used with ArcView software planning and coordination. The maps were also utilized by field teams that were equipped with GPS receivers.

"One of our biggest challenges is getting access to the proper map of the mission area," commented **Clay Kovar**, Commanding Officer of 1SRG. "That's why we were glad to find LAND INFO, and its willingness to help with our current and future data needs. We look forward to working even closer with LAND INFO."

valleys, and several active volcanoes. The country's population regularly faces threats of devastating natural disasters such as volcanoes, tidal waves, flash floods, and earthquakes. The effects of these disasters have been multiplied by the lack of concentrated management of land. Today, following a series of revealing land use and land cover studies, the country is taking steps to better manage agricultural and residential development. A primary focus is on managing watershed areas and deforestation activities.

A key proponent of the country's evolving use of GIS is the National Mapping & Resource Information Authority (NAMRIA). The governmental agency is attached to country's Department of Environment and Natural Resources. NAMRIA recently began an initiative to establish a basic framework for coordinated management of geographic information by the many governmental agencies. The program includes establishing national data standards, data exchange policies, and other sharing processes.

LAND INFO International is ready to support engineering and planning projects in the Philippines. It offers a wide range of GIS data for the country and surrounding Asia region. Visit [www.LANDINFO.com](http://www.LANDINFO.com) for more details on topographic maps, digital terrain models, and other data.



**- How many U.S. states border Canada?**

**- In what international city is the Lido located?**

**- What is the former name of New York City?**

**- What country was named by**

### ***Int'l Volunteer Group Called to Rescue Missions by Sea and Land*** [\(click here for more photos\)](#)

1SRG initiates a mission following a distress call from an international government agency, aid organization, or a victim's family/friend. The group usually deploys a field team of four to twelve members within 48-72 hours. Depending on the local emergency infrastructure, 1SRG will either support local authorities or take full control of the search.

Last month, 1SRG was contacted about two backpackers lost in the Peru wilderness. The group deployed

1SRG has several success stories including search missions in Fiji, Australia, Mexico, and Turkey. The organization has also been active on the humanitarian front. For example, earlier this year, 1SRG helped with the distribution of medical supplies to local civilian hospitals in war-torn Afghanistan.

Another primary objective of 1SRG is to strengthen the readiness of local authorities for search and rescue operations. Last year, 1SRG led two training missions in Turkey. In the past March, the organization worked with a local search and rescue organization in Nepal to train trekking guides in wilderness medical skills.

**Join LAND INFO in helping to non-profit provide search and rescue missions around the world.**

**Visit [1SRG.org](http://1SRG.org) for details**

### **Data Spotlight**

## **CONTOUR ELEVATIONS EXTRACTED FROM TOPOGRAPHIC MAPS**

Environmental analysts, civil engineers, and a host of other land planners need to understand elevation variations across terrain areas. Topographic maps include contour lines which graphically define this information. Each contour line on a map represents a specific elevation above sea level. LAND INFO digitally extracts these lines, and the associated elevation information, to create a separate [vector contour layer](#).

LAND INFO creates these vector datasets from its extensive archive of international topographic maps. Following high-resolution scanning, the topographic map image is filtered through a proprietary software application that extracts all colors, leaving only the contour elevation data. The image is then "cleaned," eliminating any peripheral data not related to the contour values. The map is then assembled using a semi-



***Gaps and spurs are eliminated through manual process to ensure accuracy***

features are manually cleaned from the image. All map contours are attributed based on elevation or Z values. The final image is exported either a DXF or SHP file format. Each contour file is quality checked to ensure accuracy.

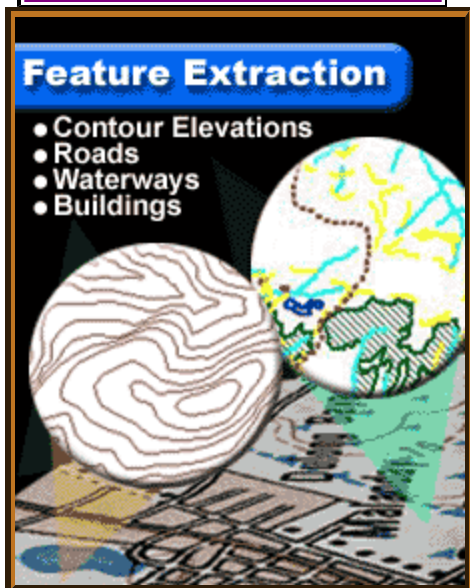
[Contour layers](#) offer geospatial users a wide variety of applications. Environmental engineers can analyze and predict watershed effects. Avalanche forecasters can integrate precipitation data and snowfall measurements to identify dangerous slopes. The contour data can also

**Amerigo Vespucci after an Italian city?**

[Click here for GEOtrivia answers](#)

automated vectorization process. Next, all gaps, spurs, and non-contour

used to create highly-accurate shaded [digital elevation models](#), leading to many additional uses.



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